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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,723	02/05/2004	James David Hensley	10011536-2	8315

7590 02/23/2007  
HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P. O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER
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NORRIS, JEREMY C

ART UNIT	PAPER NUMBER
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2841

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/23/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/773,723

Applicant(s)

HENSLEY ET AL.

Examiner

Jeremy C. Norris

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 November 2006. W
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 8-35 is/are pending in the application.
- 4a) Of the above claim(s) 8-13 and 22-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 May 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>02/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election without traverse of Group II, claims 14-21, in the reply filed on 24 November 2006 is acknowledged.

### ***Drawings***

The drawings are objected to because the sectional views are not properly cross-hatched (see MPEP 608.02). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 14, 15, 17-19, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,160,269 (Fox).

Fox discloses, referring primarily to figure 8, an assembled substrate, comprising a substrate (26) having a first side and a second side, and an electrical contact area on said first side; an electrical component (24) having a plurality of leads attached to said electrical contact area of said substrate; and a uniform force hydrostatic bolster plate attached to said second side of said substrate opposite said electrical contact area of said substrate, wherein said uniform force hydrostatic bolster plate includes: a bladder (58), a material (60) inside said bladder, and a hollow plate (30) to enclose said bladder, wherein hollow plate is open (52) on one side [claim 14], wherein said substrate is a flexible substrate (col. 4, lines 55-65) [claim 15], wherein said uniform force hydrostatic bolster plate includes a hollow plate fabricated from an aluminum alloy (col. 5, lines 1-10) [claim 17], wherein said material of said bladder incorporates a substantially non-compressible liquid (col. 6, lines 1-5) [claim 18], wherein said bladder is made from an impermeable elastomeric plastic (col. 6, lines 5-15) [claim 19].

Regarding claim 21, Examiner notes that the invention is defined as a product-by-process. It has been held "even though product-by-process claims are limited by

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and defined by the process, determination of patentability is based on the product itself.

The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). In the instant case the structure suggested by the process of claim 8 is anticipated by Fox. Specifically, Fox discloses, a bladder (58) with selected physical dimensions (col. 6, lines 1-15) and a hollow plate (30), wherein the bladder is filled with a substantially non-compressible material (60, col. 6, lines 1-5) and the bladder is put into the hollow plate such that the bladder extends in height above the hollow plate [claim 21].

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,430,611 (Patel) in view of Fox.

Patel discloses, referring primarily to figure 1, an assembled substrate, comprising a substrate (11) having a first side and a second side, and an electrical contact area on said first side; an electrical component (13) having a plurality of leads (15) attached to said electrical contact area of said substrate; and a uniform force bolster plate attached to said second side of said substrate opposite said electrical contact area of said substrate, wherein said uniform force hydrostatic bolster plate includes: a biasing means (21), and a hollow plate (27) to enclose said biasing means, wherein hollow plate is open on one side. Patel does not specifically disclose that the biasing means is a bladder with a material inside [claim 14]. Instead, Patel generically states that the biasing means can be any conventional means (col. 4, line 65 – col. 5, line 5). Fox teaches using a bladder (58), filled with a material (60) for creating a

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mechanical bias on an electrical component (24). Therefore, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use the filled bladder of Fox as the biasing means in the invention of Patel. The motivation for doing so would have been to use a biasing means that has an even distribution of force (Fox, col. 2, lines 40-55) to reduce the chance of stress cracks.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Patel in view of Fox as applied to claim 14 above, and further in view of US 6,791,846 B2 (Smith).

The modified invention of Patel teaches the claimed invention as described above except the modified invention of Patel does not specifically teach that said component is a land grid array (LGA) component [claim 16]. Patel teaches that the component is "mounted on the substrates by means of solder bumps 15 or the like" (col. 4, lines 20-30). However, it is well known in the art to use LGA connections instead of soldered connections in devices that generate considerable amounts of heat as evidenced by Smith (col. 4, line 65 – col. 5, line 5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use an LGA connection in place of the solder connections in the modified invention of Patel as is known in the art and evidenced by Smith. The motivation for doing so would have been to eliminate the chance of an electrical connection failure during operation due to solder reflow.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fox.

Fox discloses the claimed invention as described above except Fox does not specifically disclose that the material inside said bladder is selected from a group of materials consisting of: water, a glycol solution, an oil mixture, a water-based gel, or an oil-based gel [claim 20]. Instead, Fox generically states that the fluid is an incompressible fluid (col. 2, lines 40-55). However, the Examiner takes Official Notice that water is a well known incompressible fluid. Therefore, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use water as the incompressible fluid in the invention of Fox. The motivation for doing so would have been to use a relatively inexpensive and readily obtainable material. Moreover, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

### ***Conclusion***

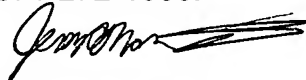
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy C. Norris whose telephone number is 571-272-1932. The examiner can normally be reached on Monday - Friday, 9:30 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-1984. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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Art Unit 2841

JCSN